

WHAT IS CLAIMED IS:

- 5 1. A knee brace, comprising:
an upper portion adapted to be secured to a person's thigh;
a lower portion adapted to be secured to a person's leg below the knee;
a plurality of straps for securing said upper and lower portions to said leg;
- 10 2. a hinge connecting said upper and lower portions to permit rotational movement of said portions relative to each other; and
a hinge deflector¹⁶⁵ encasing components on both sides of upper and lower hinge portions, and said deflector having surfaces^{405, 410} for deflecting an interfering object. (fig. 4)
- 15 3. The brace of Claim 1, wherein said deflector is configured to be positioned on the knee side of the brace, but said deflecting surfaces extend to an outer side of the hinge. ^{405, 410}
- 20 4. The brace of Claim 2, wherein said deflector has a hinge side facing the hinge and having a recess⁴²⁵ for encasing portions of said hinge and having projections⁴⁴⁰ which extend to an outer side of said hinge, with said projections having said surfaces^{405, 410} for deflecting the interfering object.
5. The brace of Claim 1, wherein the deflector is positioned on the medial side of the brace.
- 25 6. A hinge deflector¹⁶⁵ for preventing locking of opposing medial hinges when a knee brace is used on both of a person's legs, the deflector comprising:
a shell configured to be positioned on a knee side of a knee brace hinge, the shell having a knee side and a hinge side, said hinge side being configured to encase components of the hinge and having portions⁴⁴⁰ which extend to an opposite side of the hinge to encase hinge components and in position to deflect an interfering object.

7. The deflector of Claim 6, wherein the shell is configured to be positioned on the medial hinge of a knee brace and the deflecting portions are configured to deflect an opposing medial hinge.

5 8. The deflector of Claim 6, wherein said hinge side of the shell includes a recess for receiving said hinge components.

9. The deflector of Claim 6, wherein said shell includes a plurality of openings for connecting the shell to a knee brace.

10. The deflector of Claim 6, wherein said shell includes a plurality of openings for connecting said shell to a knee brace hinge.

10 11. The deflector of Claim 6, wherein said portions include a projection having a curved deflecting surface with said projection being positioned to limit the range of motion of a hinge.

12. The deflector of Claim 6, wherein said portions include a projection that extends along a substantial portion of one side of the shell.

15 13. The deflector of Claim 6 including a forward projection on the hinge side of the shell and a rear projection spaced from the other projection, and said projections being sized to encase hinge components on both sides of hinge brace members.

20 14. The deflector of Claim 13, wherein one of said projections extends along only a central portion of one edge of said shell, and the other projection extends a greater distance.

25 15. A knee brace hinge deflector comprising:
a shell having a side to face a hinge of a knee brace, and a side to face a knee when the deflector is positioned on a knee brace hinge, said hinge side having a central recess for receiving hinge components, said shell including a projection on one edge of said recess having a curved surface to deflect objects and for limiting the range of motion of a knee brace hinge, said shell further having a projection on an opposite edge of said recess having an outer curved surface for deflecting objects.

30 16. The deflector of Claim 15, wherein said knee side includes a plurality of ribs for strengthening the shell.

- allow!
- 5
17. The deflector of Claim 15, wherein said shell has generally an elliptical shape.
18. The deflector of Claim 15, wherein said recess has generally an elliptical shape.